BOOK REVIEWS

Rydberg's Flora of the Prairies and Plains[1]

In the center of our country lies a most interesting type of vegetation, in which grasses are the predominant feature. It occupies a great triangle of land, with its base stretching more than a thousand miles north and south along the eastern foothills of the Rocky Mountains and its apex extending east to Indiana. This is the Prairie Province of Pound and Clements.

The flora of this region has been studied more than a century, but the results of the study have not always been accessible to the student or local botanist. The seventh edition of Gray's Manual (1908) covered an area west through Minnesota and to the ninety-sixth meridian in Kansas and Nebraska. Coulter and Nelson (1909) included in their area all of Colorado and Wyoming and a part of South Dakota. Britton and Brown (1913) set the one hundred and second meridian for their western boundary, while Rydberg (1922) took the same line for his eastern boundary. The whole territory has been covered therefore, in its northern part at least, but always in manuals designed primarily for other types of flora in adjacent regions.

Now we have a much-needed book which centers on the prairie flora and covers the six states North Dakota, South Dakota, Nebraska, Kansas, Minnesota, and Iowa. It also extends into the southern parts of Manitoba and Saskatchewan, serves well for the eastern parts of Montana, Wyoming, and Colorado, for northern Missouri, and for the prairie plants of Wisconsin, Illinois, and Indiana.

Like all manuals covering political divisions of a country, it is not strictly limited to the prairie flora. The northeastern third of Minnesota is largely occupied by coniferous forests of the eastern type, the Black Hills by similar forests of the western type, and the eastern deciduous forests invade the territory in long strips following the river valleys almost to its western boundary. The extreme southeastern corner of Kansas is occupied by a distinctively southern flora, so that four types of forest flora are included in the book. Then the Sonoran element of

[1] Rydberg, P. A. Flora of the prairies and plains of central North America. Pages vi, 969. 600 figures. The New York Botanical Garden, Bronx Park, New York. 1932. $5.50.

our desert southwest tends to encroach on the prairies and a number of its representatives occur in southwestern Kansas. Lastly, a few plants of the colder deserts of the Great Basin cross the mountains in Wyoming and appear in western Nebraska. The result is a most interesting assemblage of species, in which plants from many sections of the country are associated. For example, among the eleven species of *Anemone*, we find the southern *A. decapetala*, the eastern *A. quinquefolia*, the northern *A. Richardsoni*, and the western *A. globosa*.

It is now ten years since Rydberg's Manual for the Rocky Mountains was published, almost twenty since the second edition of the Illustrated Flora, and twenty-four since the seventh edition of Gray. Since then taxonomists have not been idle and much careful and critical work has been done on North American plants. Progress has been made in several directions, chief of which are the extension of ranges through discriminating observation, the discovery of new species, and the recognition of differences between well known American plants and European or other extra-limital species whose names they erroneously bore. It is both valuable and refreshing to have this progress brought to our attention in Rydberg's new flora. Thus one notices unfamiliar names in the genus *Amelanchier*, largely due to the careful work of Wiegand, notes that there are two species of the white-fruited baneberries instead of one, and finds eight species of *Apocynum*, seven of which extend into the Gray's Manual range. This feature makes the book invaluable for all taxonomists between the Alleghanies and the Rockies and important as a reference book for eastern botanists as well.

The names used in the book excite alternately admiration and exasperation. For years Dr. Rydberg was a staunch follower of the American Code, but in the last year of his life he revised the names in his manuscript to conformity with the newly adopted, but as yet unpublished international rules. For many years, also, he was a strong believer in the segregation of polymorphic genera into smaller groups, and the book before us plainly shows Rydberg's ideas exemplified in many families. Of course segregation is neither a modern idea nor exclusively American. For example, Rydberg recognizes the old segregates of *Pinus* by Opiz and Necker and of *Saxifraga* by Haworth, as well as the modern segregates of *Astragalus* for which he is per-

sonally chiefly responsible. Segregation is a matter of botanical opinion and can not well be covered by rules. The reviewer believes that such segregation rarely adds anything to our knowledge of plant classification and that the segregated groups should be maintained, in most cases at least, only as subgenera or sections. That is certainly the case in *Pinus* and *Pyrola*. Segregation invariably means the relegation of otherwise tenable names to synonymy and often necessitates the creation of new combinations. Under the old American Code the original specific name was almost always carried over into the newly segregated genus, but under the international system this can not always be done. Thus our old friend *Pinus Strobus* was recognizable under its segregation as *Strobus Strobus*, but now it becomes *Strobus Weymouthiana;* we could distinguish the apple in *Malus Malus*, but as *Malus sylvestris* its identity is pretty well lost.

Another class of change in name appears regrettable at first, since it requires us to learn new names for many familiar plants, but really indicates progress in classification and a step toward nomenclatural stability. This rests on the discovery that established names, often of long standing, have been regularly misapplied. Naturally we want to keep the old name where it properly belongs and that compels us to learn a new one. Thus we find that the familiar name *Actaea alba* belongs to a different species and to our common species we must apply the name *Actaea brachypoda*, while the columbine must be called *Aquilegia latiuscula*. Still other changes are caused by the discovery of a prior name for an accepted species. Thus *Scrophularia leporella*, described by Bicknell in 1896, seems to have been detected years before by Pursh and given the name *S. lanceolata*.

The book follows the usual form of a manual. It opens with a key to the families constructed in the usual way. The descriptive matter is concise and the larger genera have small illustrations of one or more species. Ten pages of abbreviations of authors' names, prepared by J. H. Barnhart, give the dates of birth and death. The glossary covers eleven pages. The index is complete. About thirty errata are listed. A summary shows that 3988 species are considered, with the composites, grasses, sedges, and legumes as the largest families, comprising together more than a third of the total.